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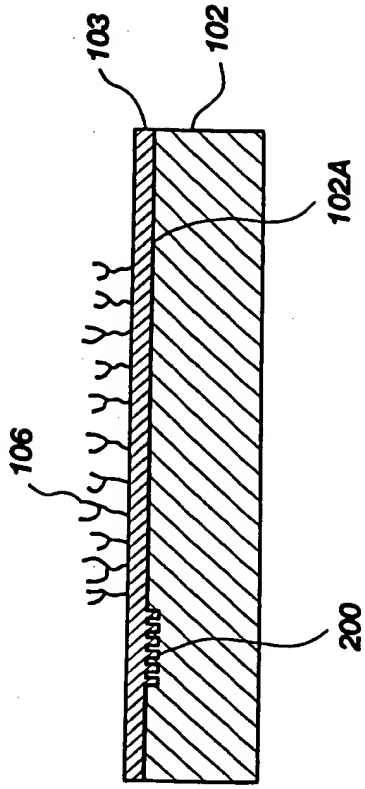

Fig. 2A

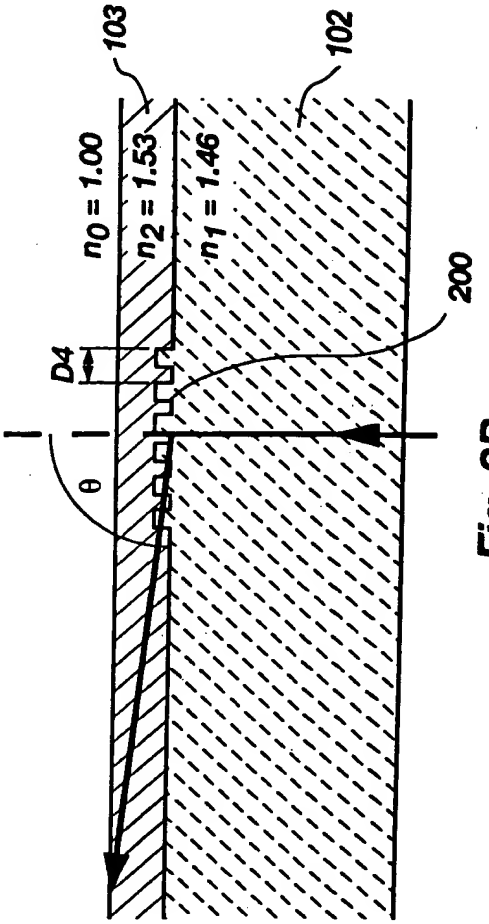

Fig. 2B

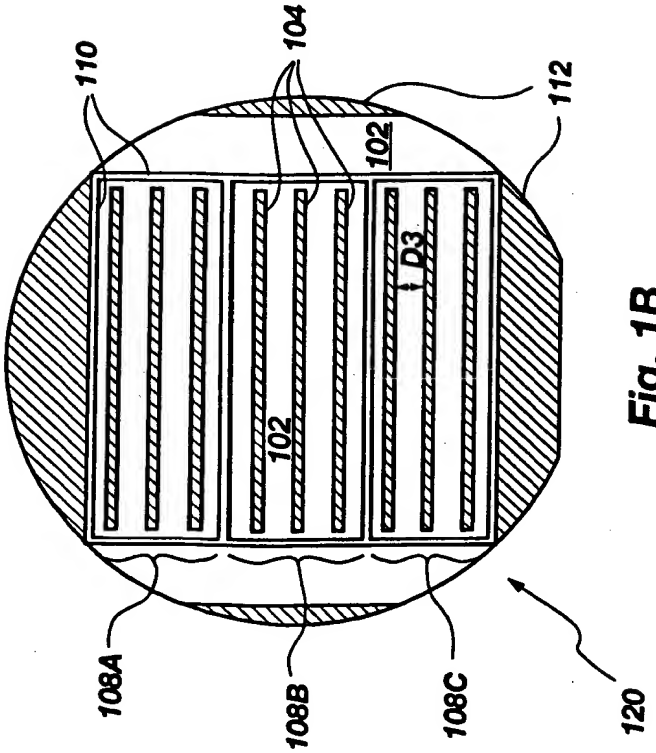

Fig. 1B

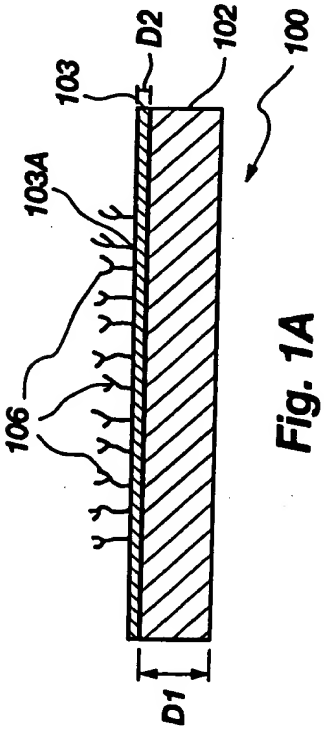

Fig. 1A

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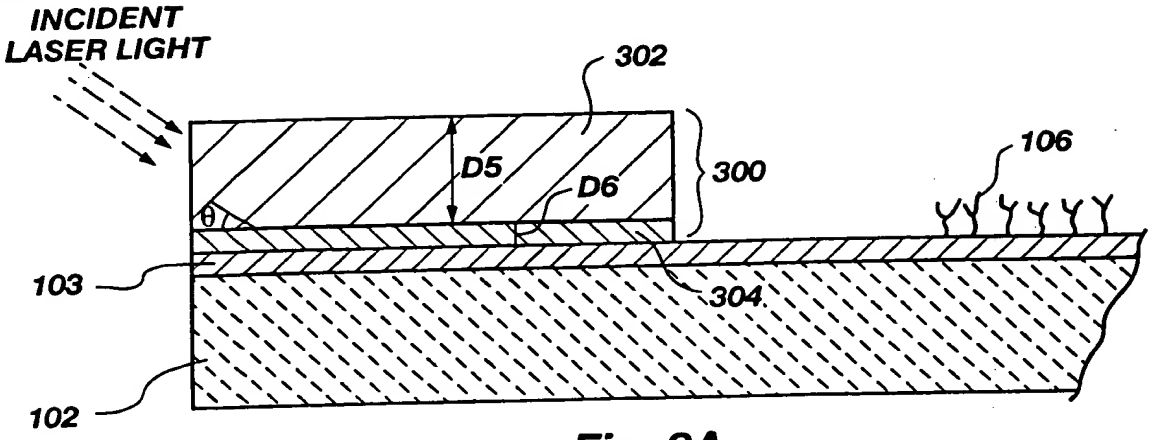

Fig. 3A

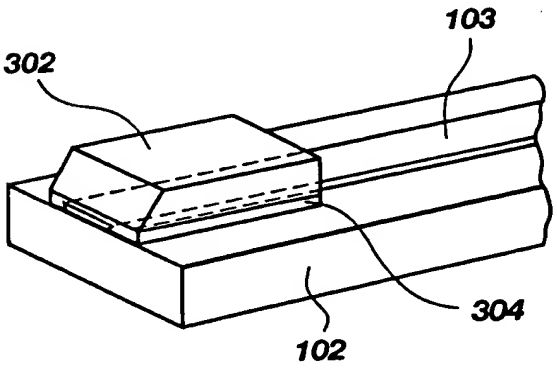

Fig. 3B

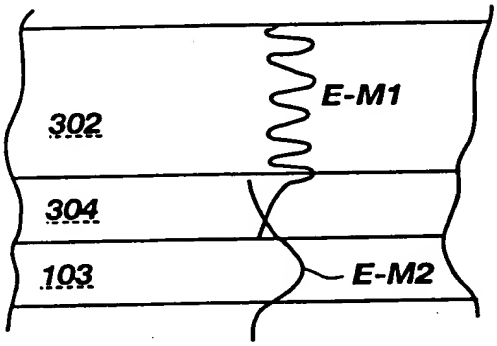

Fig. 3C

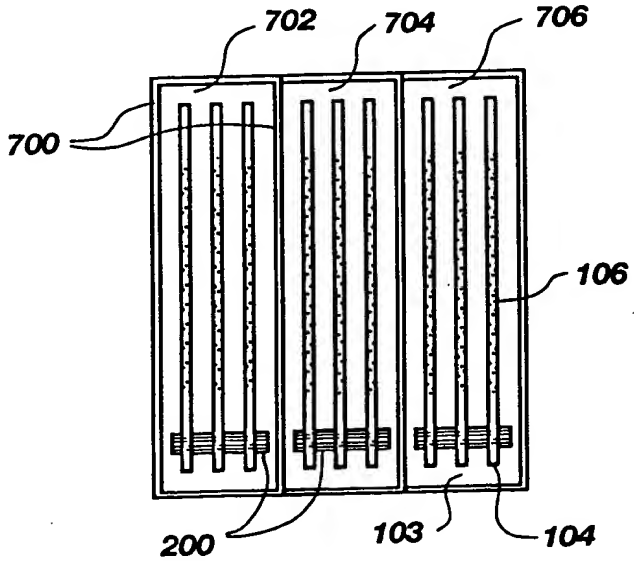

Fig. 7

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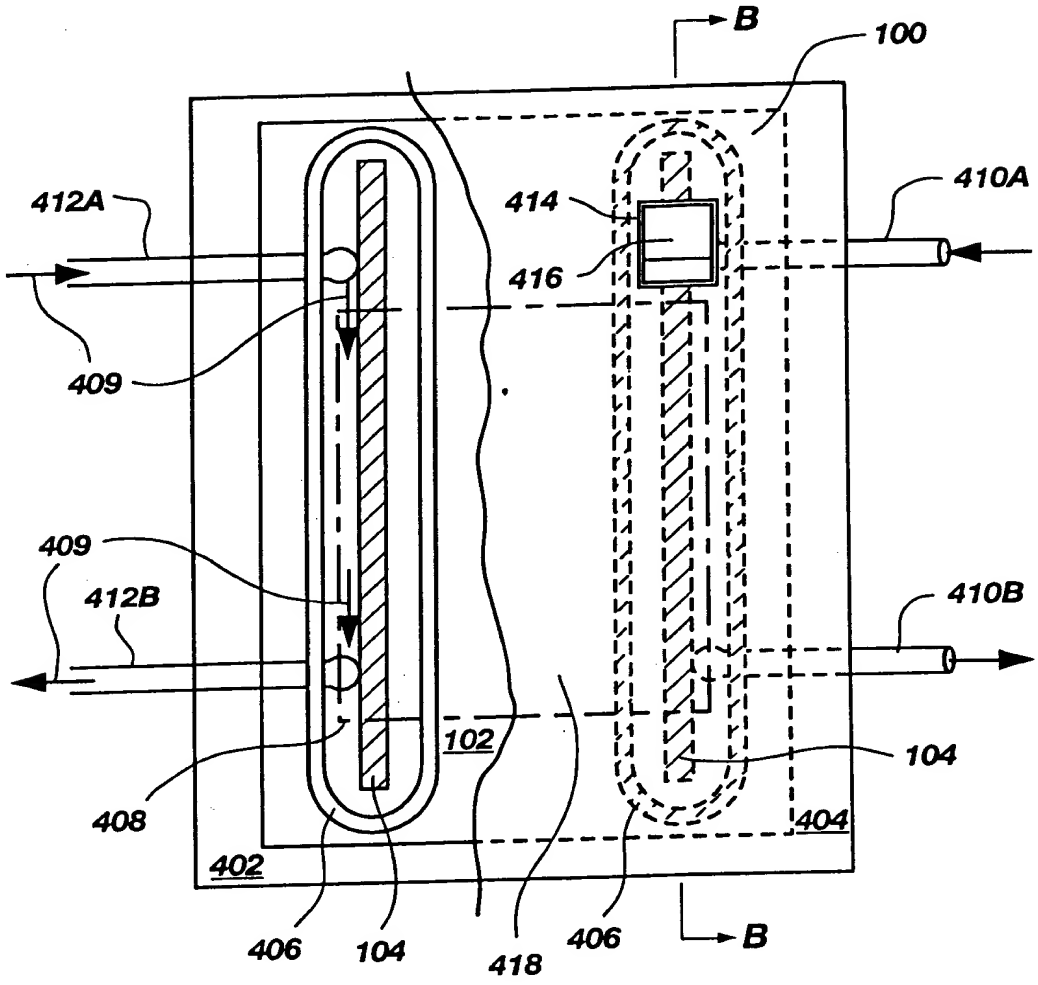

Fig. 4A

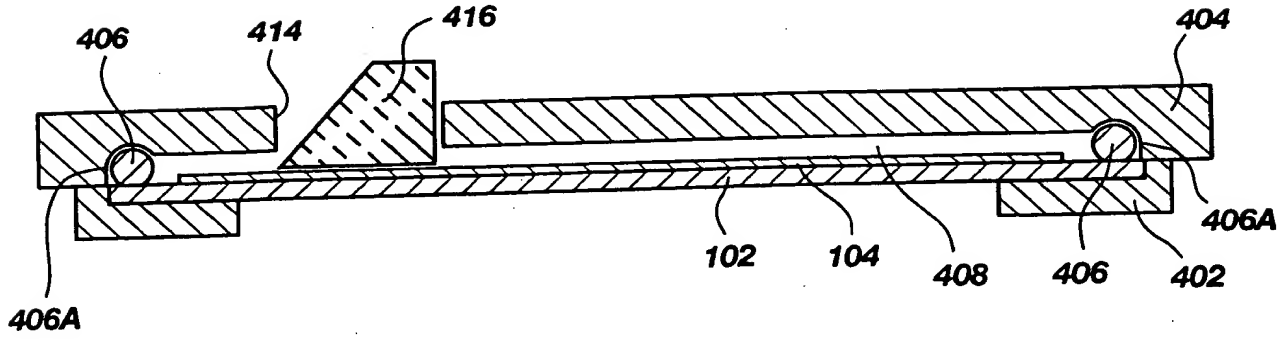

Fig. 4B

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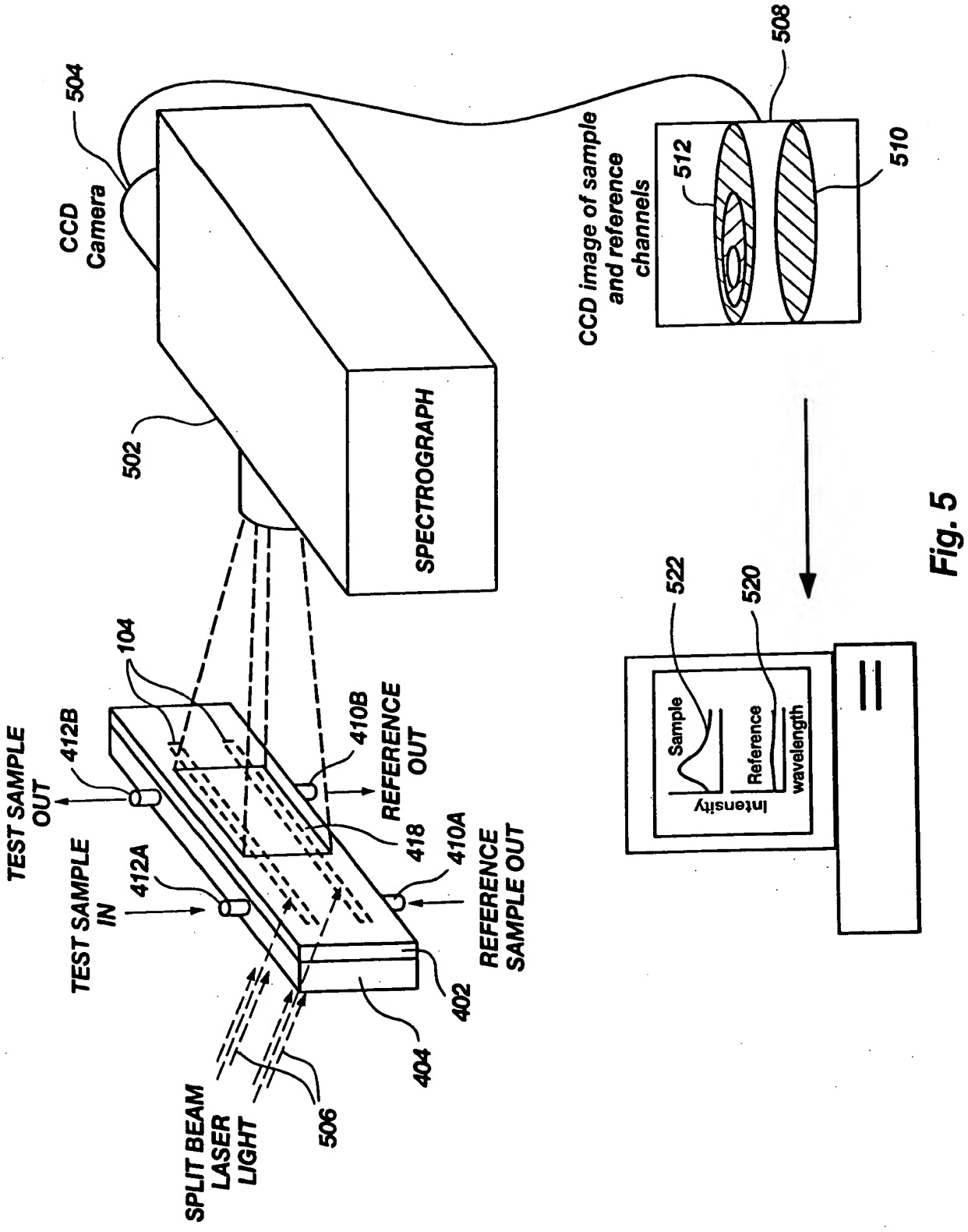

Fig. 5

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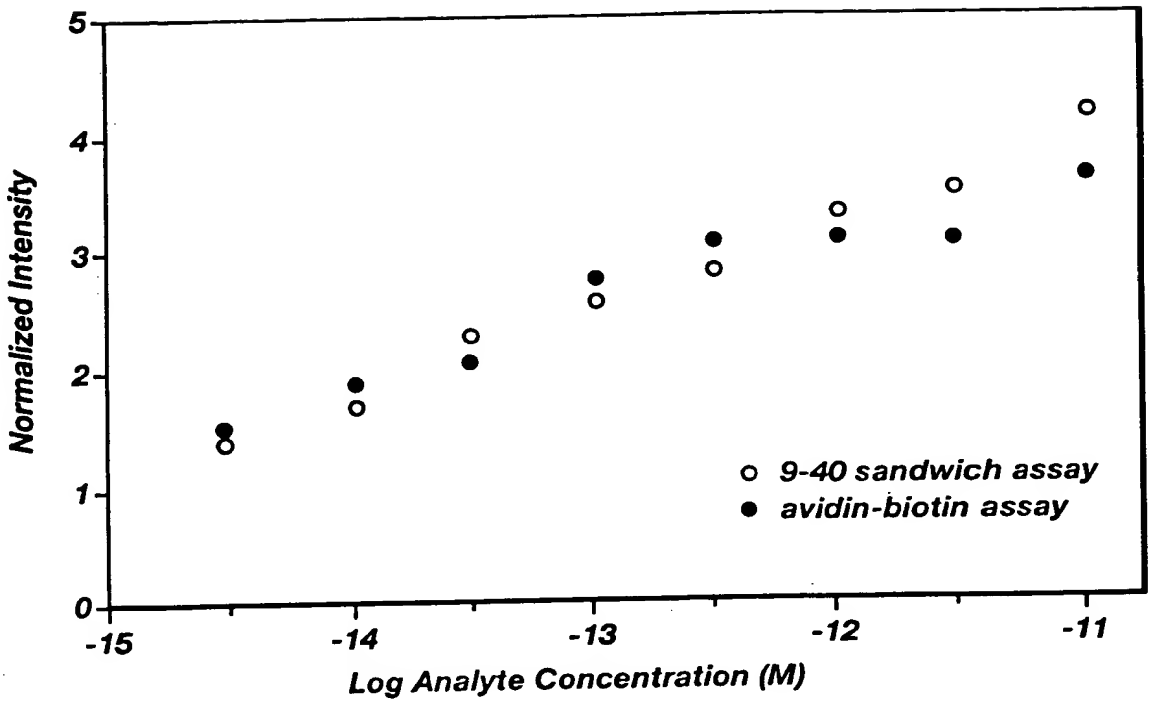

Fig. 6A

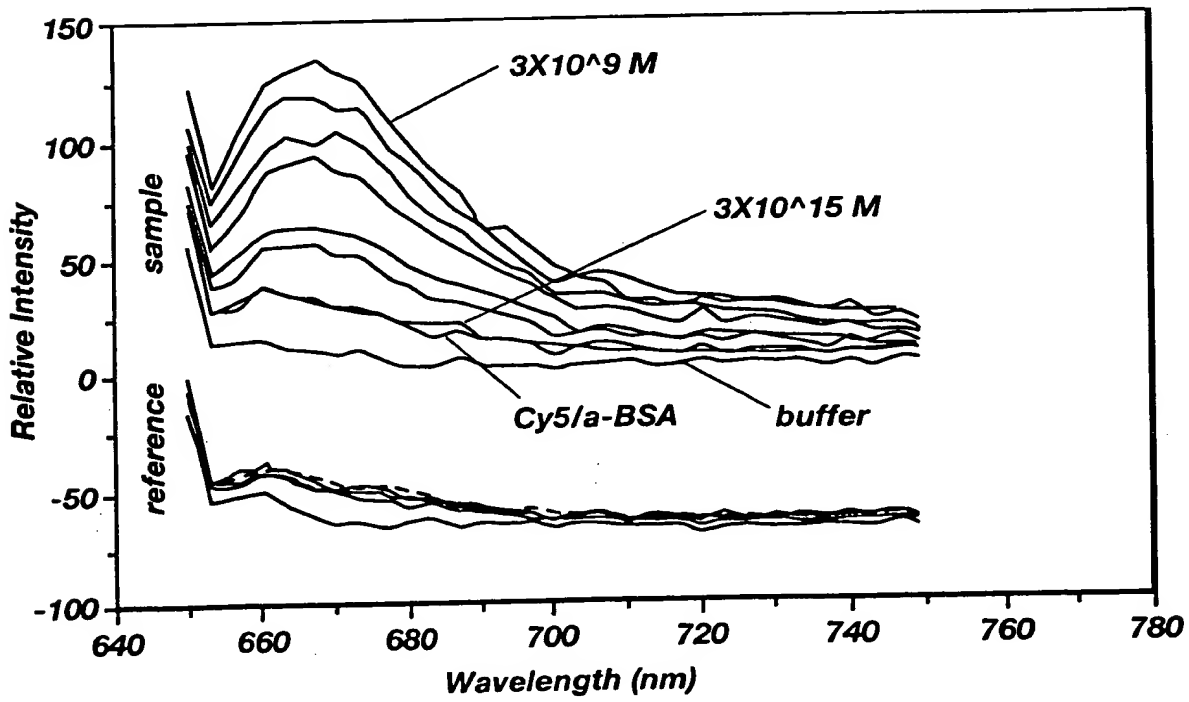

Fig. 6B

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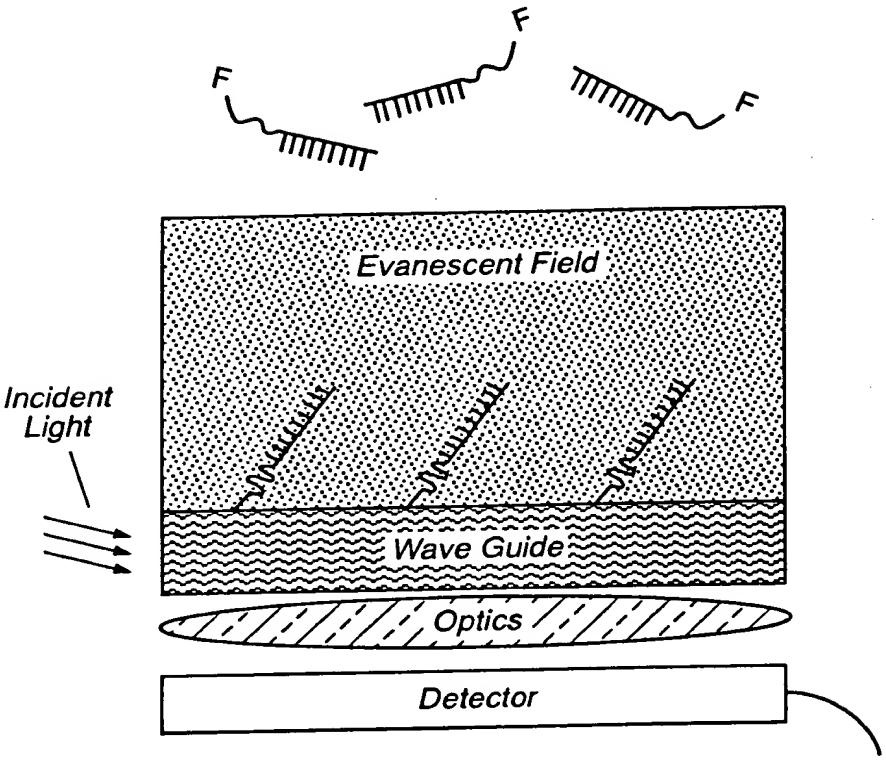

Fig. 8

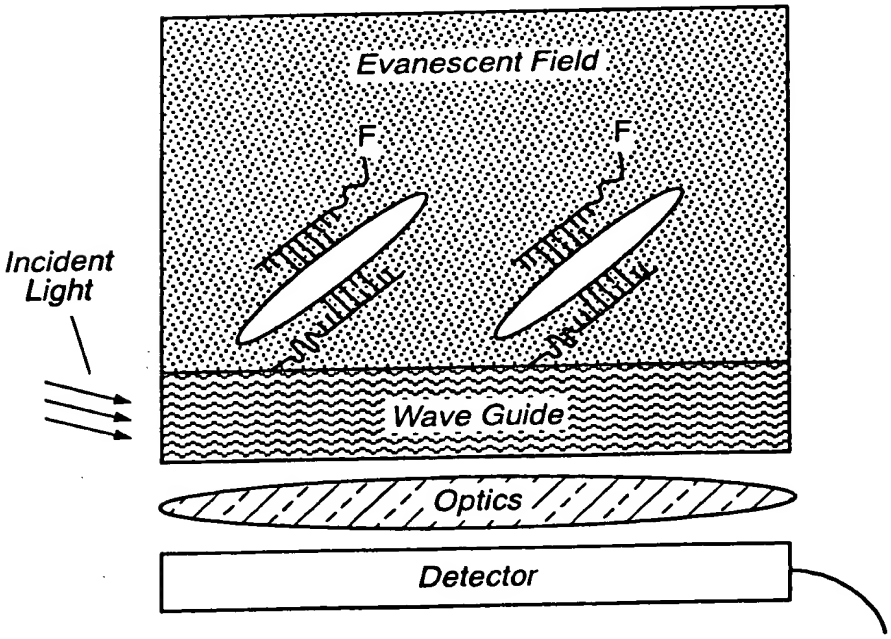

Fig. 9

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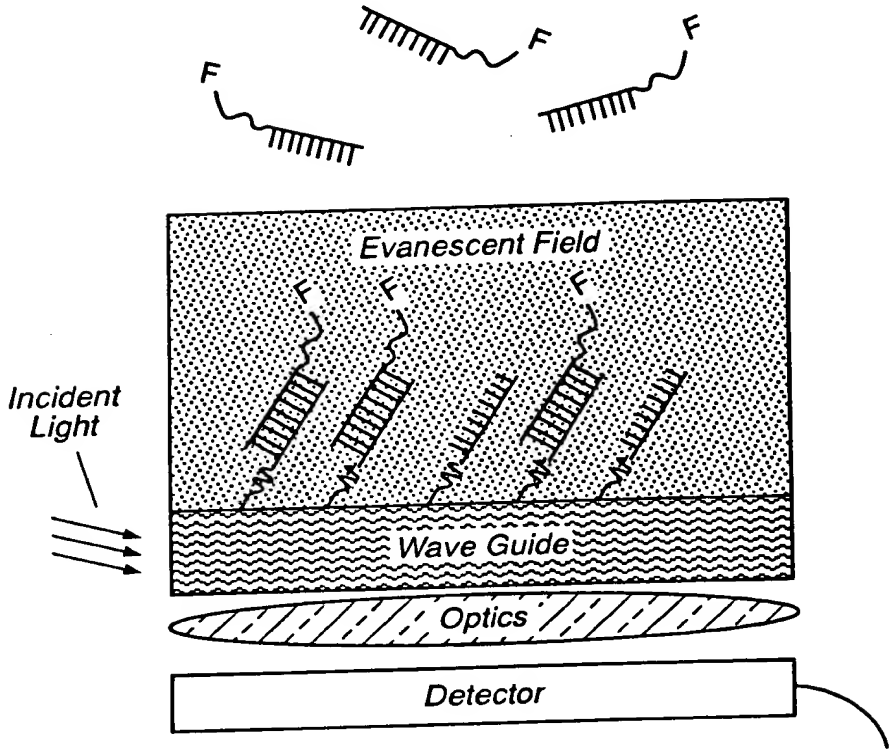

Fig. 10

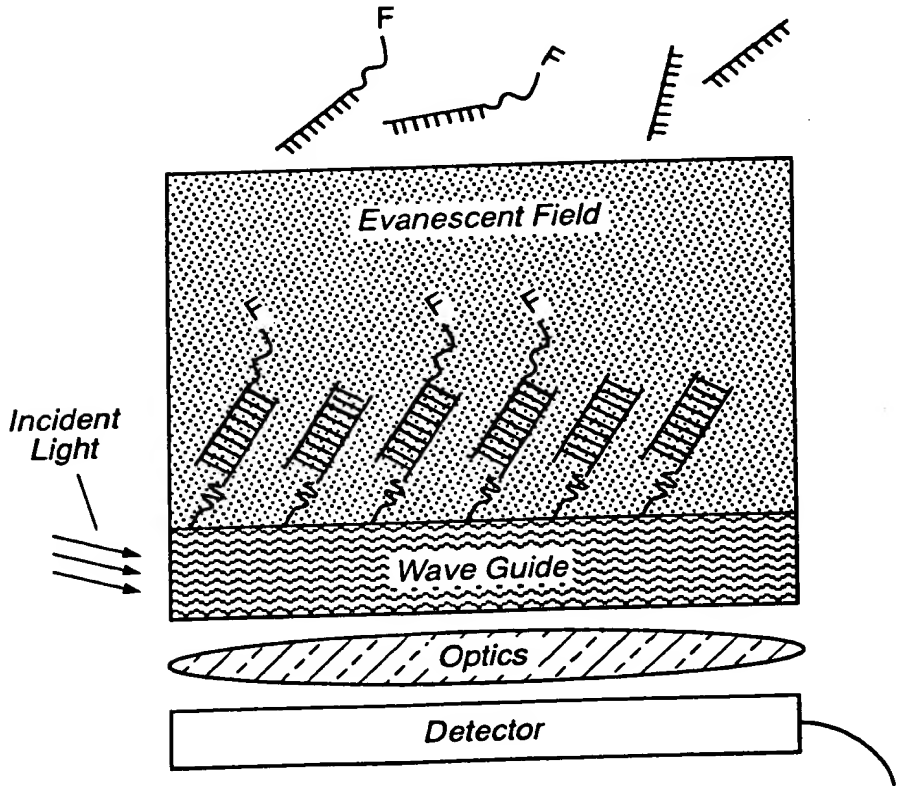

Fig. 11

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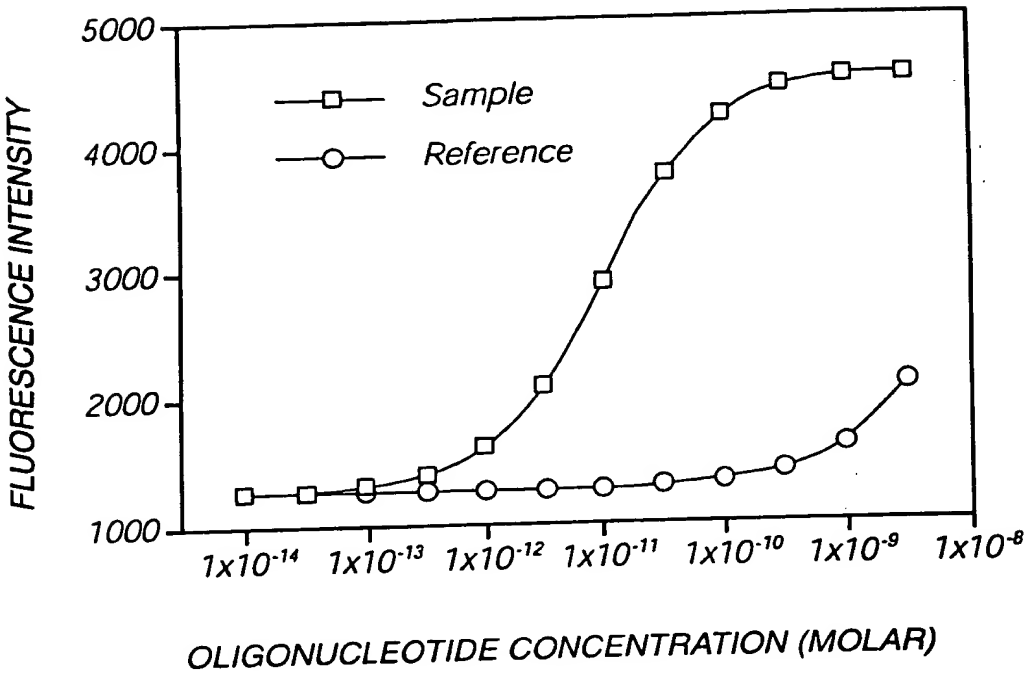

Fig. 12

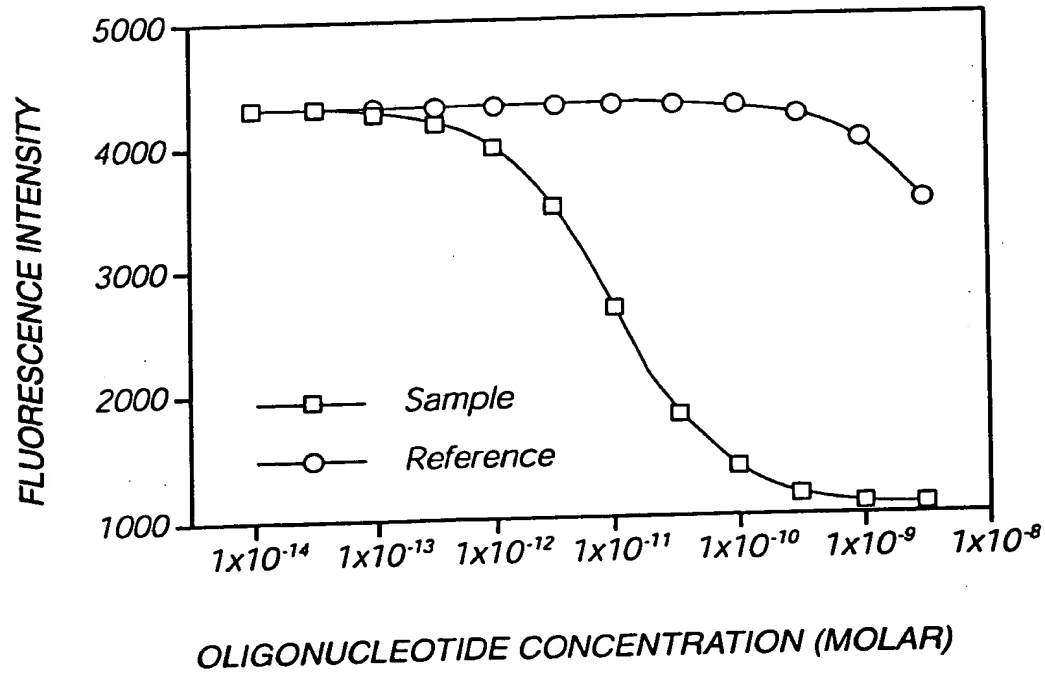

Fig. 13

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EQUILIBRIUM BINDING ISOTHERM OF CY5-LABLED OLIGONUCLEOTIDE WITH SURFACE BOUND ANTICOMPLIMENT ON POLYSTYRENE WAVEGUIDE (CURVE FIT SHOWN)

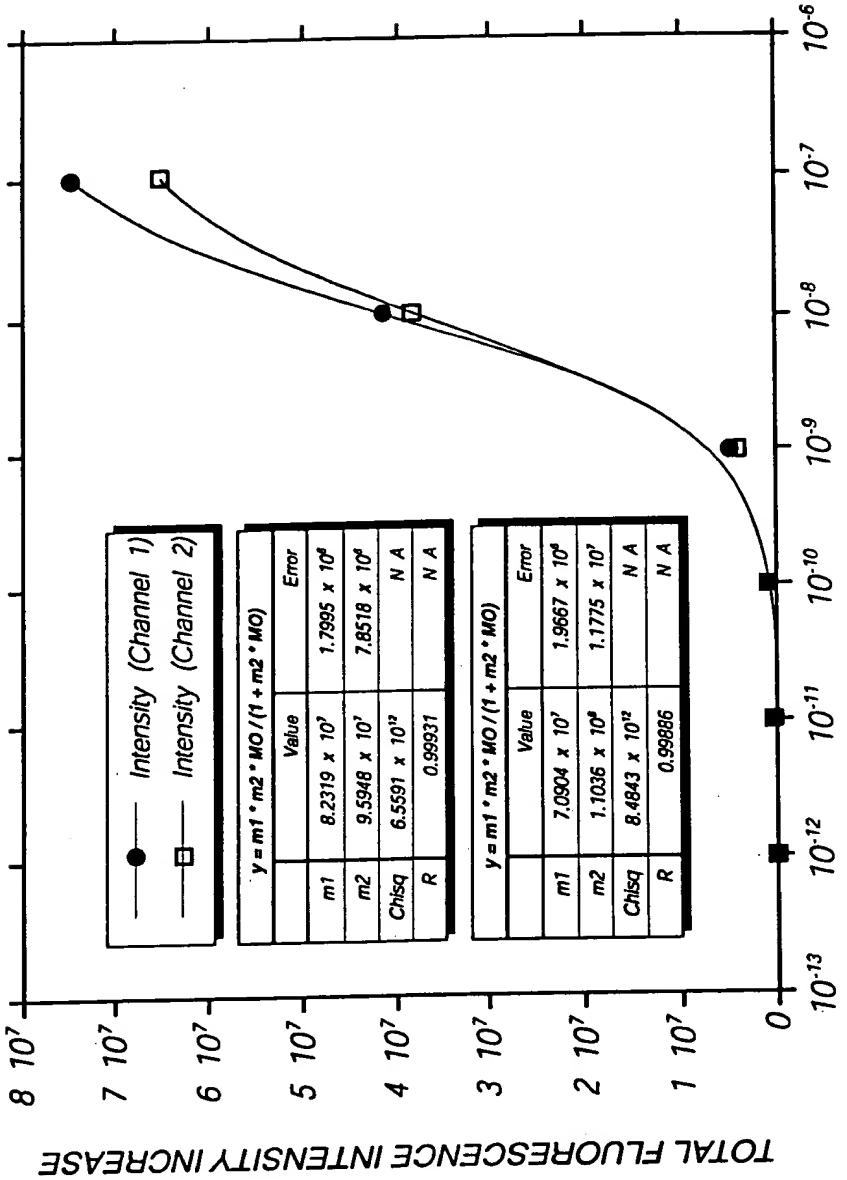

Fig. 14

OIPE
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EQUILIBRIUM BINDING ISOTHERM OF CY5-LABLED OLIGONUCLEOTIDE WITH SURFACE BOUND ANTICOMPLIMENT ON INTIGRATED OPTIC WAVEGUIDE (CURVE FIT SHOWN)

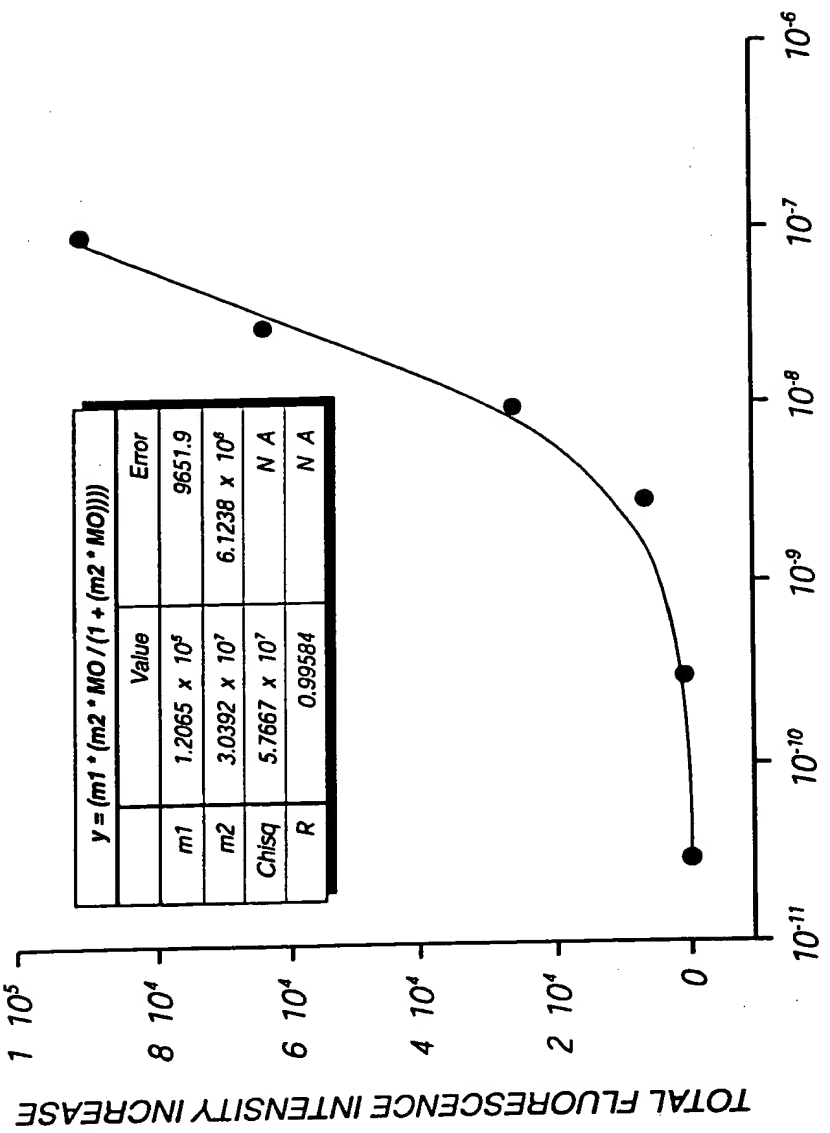

Fig. 15

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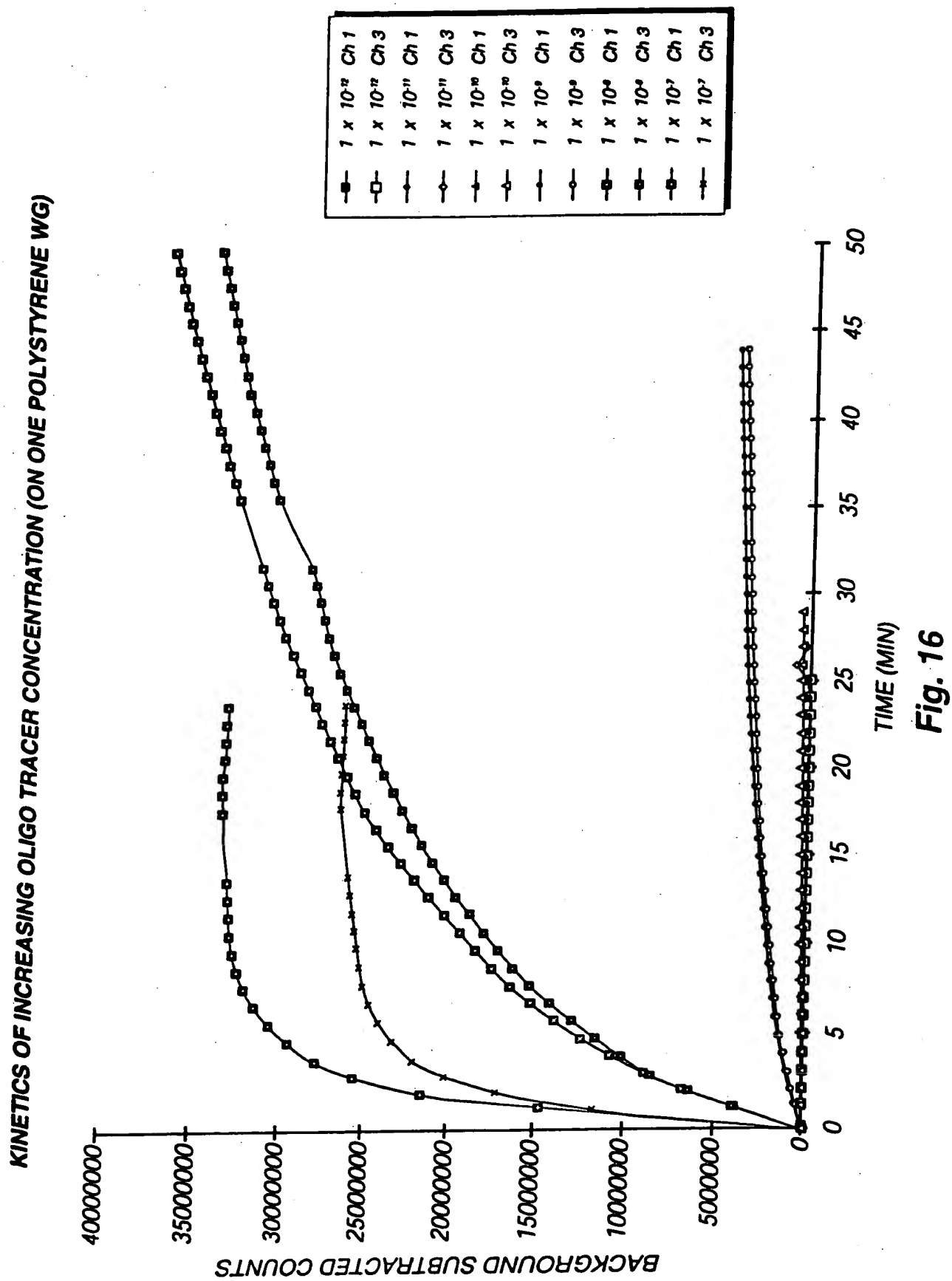

Fig. 16

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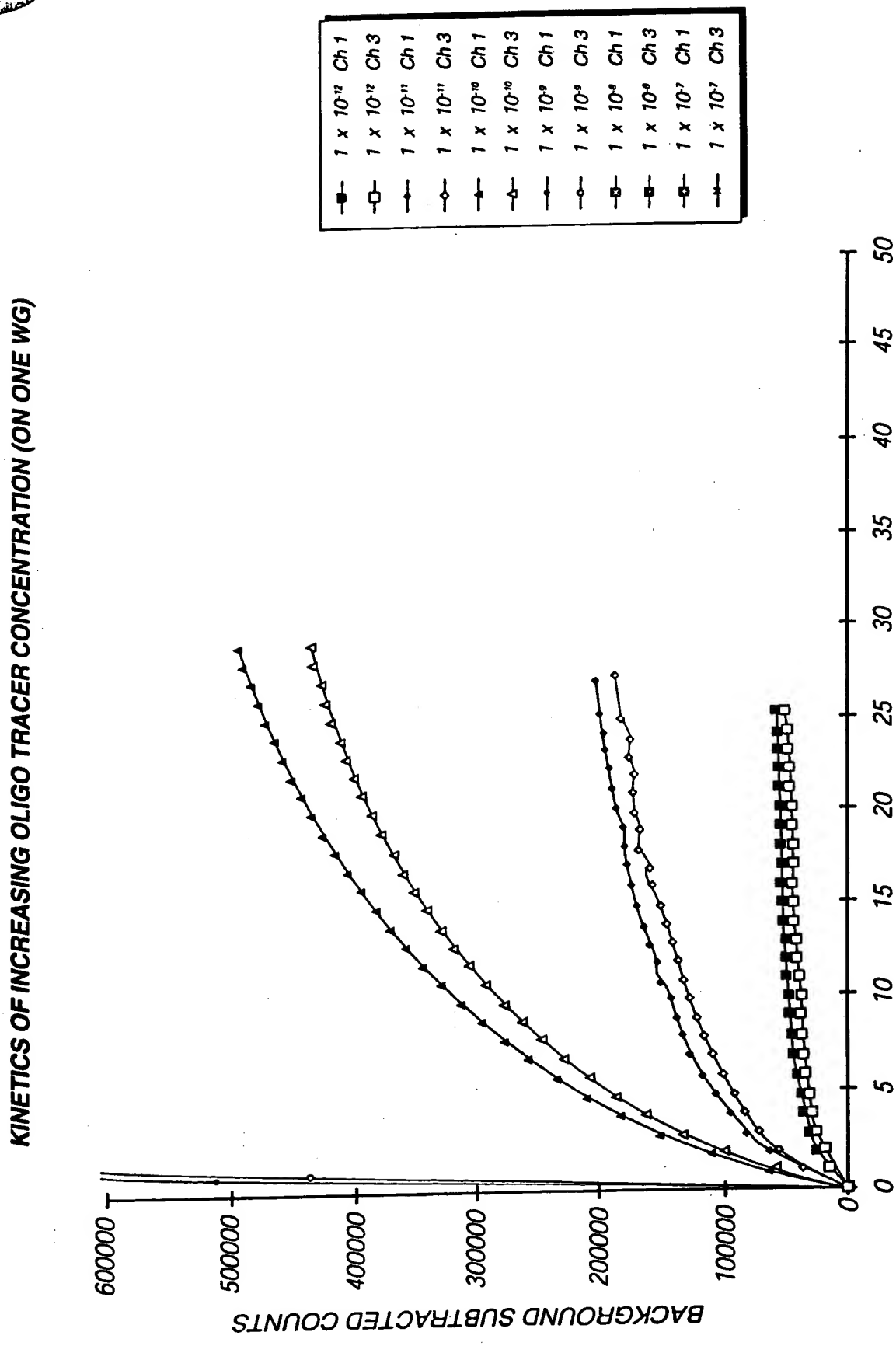

Fig. 16A

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POLYSTYRENE OLIGO ASSAY

	B	C	D	E	F	G	H
1		$1x10^{-12}$ M					
2							
3		Raw Fluorescence Kinetic Data			Background Subtracted Kinetic Data		
4	Time (min)	Ch1		Ch3	$1x10^{-12}$Ch1		$1x10^{-12}$Ch3
5	0	*1031980*		*947053*	*0*		*0*
6	1	*1051720*		*964657*	*19740*		*17604*
7	2	*1059810*		*971060*	*27830*		*24007*
8	3	*1064300*		*975759*	*32320*		*28706*
9	4	*1066790*		*977556*	*34810*		*30503*
10	5	*1070240*		*979930*	*38260*		*32877*
11	6	*1073240*		*985923*	*41260*		*38870*
12	7	*1077290*		*982526*	*45310*		*35473*
13	8	*1077920*		*986607*	*45940*		*39554*
14	9	*1079540*		*984734*	*47560*		*37681*
15	10	*1080120*		*988538*	*48140*		*41485*
16	11	*1083400*		*988133*	*51420*		*41080*
17	12	*1081750*		*988906*	*49770*		*41853*
18	13	*1083850*		*990135*	*51870*		*43082*
19	14	*1084520*		*993928*	*52540*		*46875*
20	15	*1086060*		*991629*	*54080*		*44576*
21	16	*1087080*		*993243*	*55100*		*46190*
22	17	*1085270*		*994081*	*53290*		*47028*
23	18	*1086270*		*992415*	*54290*		*45362*
24	19	*1087740*		*993538*	*55760*		*46485*
25	20	*1087370*		*995980*	*55390*		*48927*
26	21	*1087260*		*994168*	*55280*		*47115*
27	22	*1087940*		*995014*	*55960*		*47961*
28	23	*1089060*		*996124*	*57080*		*49071*
29	24	*1088160*		*995082*	*56180*		*48029*
30	25	*1089260*		*997941*	*57280*		*50888*

Fig. 17

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POLYSTYRENE OLIGO ASSAY

	K	L	M	N	O	P	Q
1		$1x10^{-11}$ M					
2							
3		Raw Fluorescence Kinetic Data			Background Subtracted Kinetic Data		
4	Time (min)	Ch1		Ch3	$1x10^{-11}$Ch1		$1x10^{-11}$Ch3
5	0	1112100		1013190	0		0
6	1	1152800		1051900	40700		38710
7	2	1177670		1071660	65570		58470
8	3	1195110		1086710	83010		73520
9	4	1206770		1098220	94670		85030
10	5	1218050		1107530	105950		94340
11	6	1226500		1115620	114400		102430
12	7	1235640		1122820	123540		109630
13	8	1242310		1131140	130210		117950
14	9	1250250		1135680	138150		122490
15	10	1253080		1140810	140980		127620
16	11	1262270		1146620	150170		133430
17	12	1264930		1151130	152830		137940
18	13	1271750		1155150	159650		141960
19	14	1275570		1160520	163470		147330
20	15	1279790		1162120	167690		148930
21	16	1283360		1170450	171260		157260
22	17	1289100		1172750	177000		159560
23	18	1292270		1180160	180170		166970
24	19	1292130		1180470	180030		167280
25	20	1296600		1182910	184500		169720
26	21	1300090		1185730	187990		172540
27	22	1302750		1186670	190650		173480
28	23	1304940		1189090	192840		175900
29	24	1308560		1188140	196460		174950
30	25	1309440		1195230	197340		182040
31	26	2002360		1980930	890260		967740
32	27	1314400		1198680	202300		185490

Fig. 18

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POLYSTYRENE OLIGO ASSAY

	T	U	V	W	X	Y	Z
1		$1x10^{-10}$ M					
2							
3		Raw Fluorescence Kinetic Data			Background Subtracted Kinetic Data		
4	Time (min)	Ch1		Ch3	$1x10^{-10}$Ch1		$1x10^{-10}$Ch3
5	0	1432650		1312580	0		0
6	1	1500170		1373250	67520		60670
7	2	1542830		1411670	110180		99090
8	3	1582310		1444560	149660		131980
9	4	1614050		1476000	181400		163420
10	5	1641770		1498500	209120		185960
11	6	1666940		1520160	234290		207580
12	7	1691120		1541210	258470		228630
13	8	1700740		1560130	278090		247550
14	9	1730010		1575870	297360		263290
15	10	1747540		1599050	314890		276470
16	11	1763960		1605980	331310		293400
17	12	1777990		1620430	345340		307850
18	13	1789310		1630300	356660		317720
19	14	1804540		1639820	371890		327240
20	15	1816140		1655440	383490		342860
21	16	1827680		1663840	395033		351260
22	17	1840680		1674570	408030		361990
23	18	1851760		1680090	419110		367510
24	19	1858720		1693450	426070		380870
25	20	1869390		1699100	436740		386520
26	21	1877230		1708640	444580		396060
27	22	1884240		1714860	451590		402280
28	23	1891760		1720530	459110		407950
29	24	1899320		1725140	466670		412560
30	25	1904700		1733780	472050		421200
31	26	1910260		1739570	477610		426990
32	27	1917760		1741990	485110		429410
33	28	1924070		1750590	491420		438010
34	29	1926800		1751600	494150		439020

Fig. 19

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POLYSTYRENE OLIGO ASSAY

	AC	AD	AE	AF	AG	AH	AI
1		$1x10^{-9}$ M					
2							
3		Raw Fluorescence Kinetic Data			Background Subtracted Kinetic Data		
4	Time (min)	Ch1		Ch3	$1x10^{-9}$Ch1		$1x10^{-9}$Ch3
5	0	2277600		2066020	0		0
6	1	2791580		2504350	513980		438330
7	2	3116840		2792860	839240		726840
8	3	3377790		3021480	1100190		955460
9	4	3593810		3217180	1316210		1151160
10	5	3782480		3389790	1504880		1323770
11	6	3954890		3544790	1677290		1478770
12	7	4107890		3684630	1830290		1618610
13	8	4254390		3819870	1976790		1753850
14	9	4384410		3940160	2106810		1874140
15	10	4503520		4046970	2225920		1980950
16	11	4617170		4155710	2339570		2089690
17	12	4720460		4250340	2442860		2184320
18	13	4825950		4345730	2548350		2279710
19	14	4916650		4431590	2639050		2365570
20	15	5012020		4517220	2734420		2451200
21	16	5101450		4600800	2823850		2534780
22	17	5184010		4676650	2906410		2610630
23	18	5258160		4747450	2980560		2681430
24	19	5331160		4812870	3053560		2746850
25	20	5403100		4876800	3125500		2810780
26	21	5469290		4940820	3191690		2874800
27	22	5527850		4999840	3250250		2933820
28	23	5590790		5054350	3313190		2988510
29	24	5645270		5109750	3367670		3043730
30	25	5700390		5159770	3422790		3093750
31		5752500		5207200	3474900		3141180
32		5799990		5254210	3522390		3188190
33		5849310		5295550	3571710		3229530
34		5894420		5337760	3616820		3271740
35		5931460		5374030	3653860		3308010
36		5973550		5412550	3695950		3346530
37		6010260		5451210	3732660		3385190
38		6044600		5482710	3767000		3416690
39		0		0			
40		6116470		5550920	3838870		3484900
41		6147630		5578310	3870030		3512290
42		6174870		5608720	3897270		3542700
43		6204650		5636190	3927050		3570170
44		6231100		5654760	3953500		3588740
45		6250750		5682210	3973150		3616190
46		6271150		5699130	3993550		3633110
47		6293540		5723860	4015940		3657840
48		6307640		5731930	4030040		3665910
49		6330810		5752080	4053210		3686060

Fig. 20

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POLYSTYRENE OLIGO ASSAY

	AL	AD	AN	AF	AG	AQ	AI
50		*21973900*		*23388700*	*35244420*		*32889720*
51		*22108900*		*20474300*	*35514420*		*33060920*
52		*22225000*		*20568500*	*35746620*		*33249320*
53		*22324000*		*20659300*	*35944620*		*33430920*
54		*22442200*		*20773700*	*36181020*		*33659720*
55		*22524700*		*20894600*	*36346020*		*33901520*

Fig. 21

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POLYSTYRENE OLIGO ASSAY

	AL	AM	AN	AO	AP	AQ	AR
1		$1x10^{-8}$ M					
2							
3		Raw Fluorescence Kinetic Data			Background Subtracted Kinetic Data		
4	Time (min)	Ch1		Ch3	$1x10^{-8}$Ch1		$1x10^{-8}$Ch3
5	0	8703380		7887680	0		0
6	1	12702700		11737900	3999320		3850220
7	2	15420600		14403300	6717220		6515620
8	3	17653400		16383800	8950020		8496120
9	4	19565100		17999500	10861720		10111820
10	5	21173800		19524900	12470420		11637220
11	6	22610500		20827400	13907120		12939720
12	7	23890100		22128500	15186720		14240820
13	8	25099600		23241100	16396220		15353420
14	9	26178400		24236400	17475020		16348720
15	10	27228700		25135700	18525320		17248020
16	11	28247800		26050500	19544420		18162820
17	12	29125600		26871000	20422220		18983320
18	13	29933500		27640300	21230120		19752622
19	14	30841700		28312900	22138320		20425220
20	15	31585800		29031300	22882420		21143620
21	16	32377400		29684100	23674020		21796420
22	17	33057900		30278200	24354520		22390520
23	18	33764700		30843200	25061320		22955520
24	19	34358100		31395300	25654720		23507620
25	20	34882300		31916400	26178920		24028720
26	21	35476100		32442900	26772720		24555220
27	22	36033800		32959400	27330420		25071720
28	23	36568900		33453700	27865520		25566020
29	24	37028500		33900500	28325120		26012820
30	25	37445200		34258400	28741820		26370720
31		37891100		34633600	29187720		26745920
32		38356200		35029500	29652820		27141820
33		38764900		35280900	30061520		27393220
34		39118800		35568000	30415420		27680320
35		39418600		35916200	30715220		28028520
36		39815000		36187200	31111620		28299520
37		40140900		36442000	31437520		28554320
38		0		0			
39		0		0			
40		0		0			
41		20710200		19168700	32717020		30449720
42		20866700		19328900	33030020		30770120
43		21014600		19483400	33325820		31099120
44		21168200		19624400	33633020		31361120
45		21309000		19780300	33914620		31672920
46		21457900		19904100	34212420		31920520
47		21621800		20019800	34540220		32151920
48		21741600		20140200	34779820		32392720
49		21856800		20248200	35010220		32608720

Fig. 22

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POLYSTYRENE OLIGO ASSAY

	AL	AM	AN	AO	AP	AQ	AR
50		21973900		23388700	35244420		32889720
51		22108900		20474300	35514420		33060920
52		22225000		20568500	35746620		33249320
53		22324000		20659300	35944620		33430920
54		22442200		20773700	36181020		33659720
55		22524700		20894600	36346020		33901520

Fig. 23

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POLYSTYRENE OLIGO ASSAY

	AU	AV	AW	AX	AY	AZ	BA
1		$1x10^{-7}$M					
2							
3		Raw Fluorescence Kinetic Data			Background Subtracted Kinetic Data		
4	Time (min)	Ch1		Ch3	$1x10^{-7}$Ch1		$1x10^{-7}$Ch3
5	0	28245300		26212000	0		0
6	1	35584600		32050700	14678600		11677400
7	2	39026200		34787600	21561800		17151200
8	3	41044300		36276700	25598000		20129400
9	4	42114200		37171300	27737800		21918600
10	5	42966200		37774800	29501800		23125600
11	6	43538500		38208800	30586400		23993600
12	7	43931600		38462300	31372600		24500600
13	8	44268000		38663800	32045400		24903600
14	9	44452200		38797700	32413800		25171400
15	10	44584500		38940900	32678400		25457800
16	11	44707800		39005700	32925000		25587400
17	12	44741300		39075000	32992000		25726000
18	13	44762600		39158200	33034600		25892400
19	14	44825600		39210600	33160600		25997200
20	15	0		0			
21	16	0		0			
22	17	0		0			
23	18	22483000		19739100	33441400		26532400
24	19	22486100		19752000	33453800		26584000
25	20	22481800		19759100	33436600		26612400
26	21	22462900		19742500	33361000		26546000
27	22	22437500		19722500	33259400		26466000
28	23	22445100		19723700	33289800		26470800
29	24	22415700		19714400	33172200		26433600

Fig. 24

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POLYSTYRENE OLIGO ASSAY

Total Increase in Fluorescence (Equilibrium) Data				
Concentration (M)	Channel 1 counts	Channel 3 counts	Total counts Ch1	Total counts Ch3
1×10^{-12}	57280	50888	57280	50888
1×10^{-11}	202300	185490	259580	236378
1×10^{-10}	494150	439020	753730	675398
1×10^{-9}	4053210	3686060	4806940	4361458
1×10^{-8}	36346020	33901520	41152960	38262978
1×10^{-7}	33172200	26433600	74325160	64696578

Fig. 25

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BINDING KINETICS CURVES OF CY5-LABLED OLIGONUCLEOTIDE SOLUTIONS ON A SION INTEGRATED OPTIC WAVEGUIDE
(CY5 LABLED OLIGONUCLEOTIDE CONCENTRATION VARIES AS SHOWN IN LEGEND)

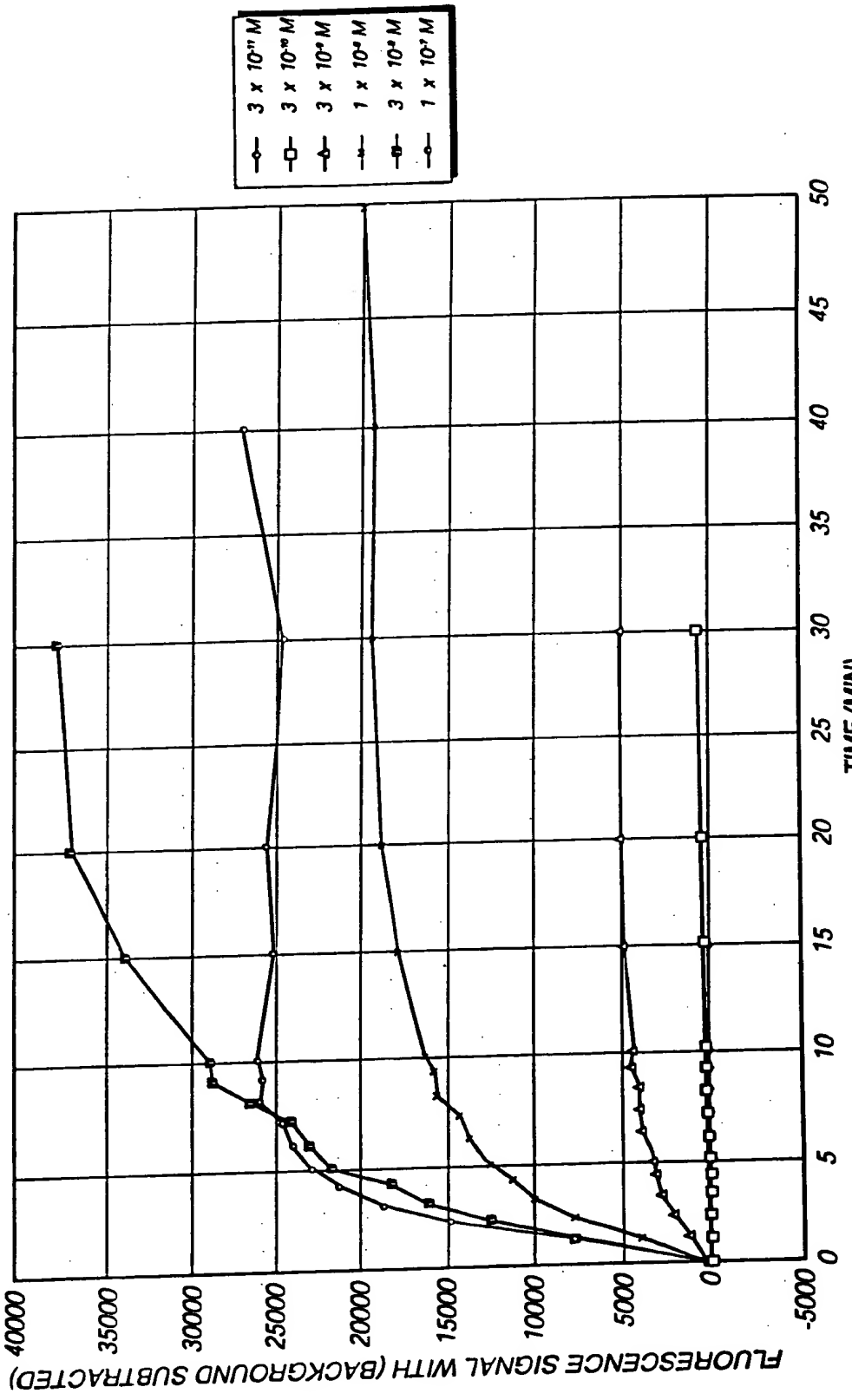

Fig. 26

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IO OLIGO ASSAY

	C	D	E	F	G	H	I
5		Raw Fluorescence Kinetic Data					
6							
7		Concentration					
8	Time (min)	3×10^{-11} M	3×10^{-10} M	3×10^{-9} M	1×10^{-8} M	3×10^{-8} M	1×10^{-7} M
9	0	*13403*	*13921*	*16827*	*32542*	*77025*	*174425*
10	1	*13441*	*13915*	*18007*	*36606*	*84937*	*182107*
11	2	*13458*	*14058*	*18909*	*40339*	*89541*	*189164*
12	3	*13469*	*14019*	*19556*	*42439*	*93142*	*193135*
13	4	*13547*	*14145*	*19982*	*43697*	*95188*	*195511*
14	5	*13454*	*14115*	*20268*	*45324*	*98929*	*197588*
15	6	*13538*	*14187*	*20730*	*46146*	*100143*	*198491*
16	7	*13467*	*14192*	*20882*	*46895*	*101259*	*198996*
17	8	*13489*	*14211*	*20965*	*48048*	*103359*	*200235*
18	9	*13431*	*14256*	*21357*	*48227*	*105623*	*200147*
19	10	*13485*	*14176*	*21233*	*48766*	*105865*	*200469*
20	15	*13455*	*14262*	*21763*	*50251*	*110981*	*199558*
21	20		*14379*	*21921*	*51306*	*113911*	*199813*
22	30		*14377*	*21867*	*51825*	*114547*	*198883*
23	40				*51559*		*201156*
24	50				*51908*		
25	60						

Fig. 27

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IO OLIGO ASSAY

	C	J	K	L	M	N	O
5		Background Subtracted Fluorescence Kinetic Data					
6							
7		Concentration					
8	Time (min)	3×10^{-11} M	3×10^{-10} M	3×10^{-9} M	1×10^{-8} M	3×10^{-8} M	1×10^{-7} M
9	0	*0*	*0*	*0*	*0*	*0*	*0*
10	1	*38*	*-6*	*1180*	*4064*	*7912*	*7682*
11	2	*55*	*137*	*2082*	*7797*	*12516*	*14739*
12	3	*66*	*98*	*2729*	*9897*	*16117*	*18710*
13	4	*144*	*224*	*3155*	*11155*	*18163*	*21086*
14	5	*51*	*194*	*3441*	*12782*	*21904*	*23163*
15	6	*135*	*266*	*3903*	*13604*	*23118*	*24066*
16	7	*64*	*271*	*4055*	*14353*	*24234*	*24571*
17	8	*86*	*290*	*4138*	*15506*	*26370*	*25810*
18	9	*28*	*355*	*4530*	*15685*	*28598*	*25722*
19	10	*82*	*255*	*4406*	*16224*	*28404*	*26044*
20	15	*52*	*341*	*4936*	*17709*	*33956*	*25133*
21	20		*458*	*5094*	*18764*	*36886*	*25388*
22	30		*456*	*5049*	*19283*	*37522*	*24458*
23	40				*19017*		*26731*
24	50				*19366*		
25	60						

Fig. 28

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IO OLIGO ASSAY

	Q	R	S	T	U
5					
6	*Total Increase in Fluorescence (Equilibrium) Data*				
7					
8		*Concentration*	*Counts*	*Total counts*	
9		3×10^{-11}	52	52	
10		3×10^{-10}	456	508	
11		0.000000003	5049	5557	
12		0.00000001	19366	24923	
13		0.00000003	37522	62445	
14		0.0000001	26731	89176	
15					
16					
17					

Fig. 29